IAEA
IEC
Incident and
Emergency Centre

EPR INSIGHTS
Updates on Emergency Preparedness and Response

IEC
15Years

Issue 12 December 2020

Strengthening Global Responses to Nuclear and Radiological Emergencies: 10th CAM concludes

Kilian Smith, IAEA Department of Nuclear Safety and Security

IAEA Director General Rafael Mariano Grossi (centre) and Chair of the 10th Competent Authorities Meeting, Jaime Salas Kurte, Executive Director of the Chilean Nuclear Energy Commission (shown on screen) address participants at the opening session. (Photo: K. Vargas/IAEA)

Promoting the implementation of the Convention on Early Notification of a Nuclear Accident (Early Notification Convention) and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (Assistance Convention) is essential, as well as the participation in exercises and training activities, to improve emergency management. These were among the several conclusions the Competent Authorities responsible for national nuclear and radiological emergency preparedness and response agreed to recently Virtually for the first time from 15 to 19 June, these officials, designated by their governments to implement these Conventions, agreed on actions they and the IAEA will take in the coming two years.

"The fact that we are conducting a virtual Competent Authorities Meeting reflects the ability of all of us to innovate quickly," said IAEA Director General Rafael Mariano Grossi at the opening session. "The IAEA plays a key role in bringing countries together to cooperate in ensuring the most effective preparation for emergency and response in case of a nuclear or radiological incident."

Mr Grossi also noted that the IAEA is learning from COVID-19. "The key lesson is that preparedness and response procedures need to be adapted to deal with challenges from pandemics."

During the 10th Competent Authorities Meeting, or CAM, participants reaffirmed their continuing commitment to test the operational arrangements outlined in the EPR-IEComm 2019. In addition, participants commended the vital role that the IAEA's Unified System for Information Exchange in Incidents and Emergencies (USIE)—a secure website—plays in sharing information on safety or security-related nuclear and radiological incidents and emergencies, both for actual events and in exercises, and encouraged the IAEA to develop a mobile-friendly version.

Representatives also took note of the importance of having arrangements in place to ensure effective public communication in a nuclear or radiological emergency, and

continued on next page

IN THIS ISSUE

highlighted the progress made in relation to the IAEA's role in assessment and prognosis in a nuclear or radiological emergency. The IAEA encouraged countries to designate data providers for the International Radiation Monitoring Information System (IRMIS).

Click here to take a behind-the-scenes look at the virtual meeting.

For 20 years now, the CAM serves as the world's forum to review the implementation of the two Conventions that define the global emergency preparedness and response framework. Held biannually since 2000, the CAM has grown substantially from 58 Member States and two international organizations to 96 countries and twelve international intergovernmental organizations this year. At the CAM, the IAEA also marked the 15-year anniversary of its Incident and Emergency Centre (IEC). In continuous 24/7 operation for over 130 000 hours, the IEC maintained its response readiness also during the COVID-19 pandemic. Watch this video to learn more.

Since its establishment in 1957, the IAEA has sustained an emergency response capability. Fifteen years ago, the IAEA launched the Incident and Emergency Centre as a global centre capable of responding around-the-clock to any safety or security-related nuclear or radiological emergency. The IEC maintains the Incident and Emergency System (IES) comprising trained on-duty and on-call staff to respond to nuclear or radiological incident or emergency, as well as to requests for assistance. IAEA Deputy Director General and Head of the Department of Nuclear Safety and Security Juan Carlos Lentijo noted that the IEC and the IES are key components in the IAEA's fulfilment of its mandate to support global nuclear safety and security.

> ***"In an emergency, over 200 trained IAEA staff are continuously available to provide technical and scientific assessments, assist countries and coordinate international response efforts,"***
>
> **Elena Buglova**
> Head, IAEA Incident and Emergency Centre

"In an emergency, over 200 trained IAEA staff are continuously available to provide technical and scientific assessments, assist countries and coordinate international response efforts," said Elena Buglova, Head of the IEC. "Since 2005, the IEC receives about 250 reports annually, issued by competent authorities, as well as through disaster alert systems and media reports. We assess, process and respond to every report, involving or assumed to involve nuclear or radiological facilities or activities."

Following the March 2011 Fukushima Daiichi Nuclear Power Plant accident, through the IES, 230 IAEA staff operated in 24/7 'full response mode' for 54 days.

Global go-to Centre

By training up to 1000 emergency responders annually and by organizing and participating in international, regional and national exercises, the IEC continually enhances countries' and its own emergency response capacity. In close collaboration with Member States and international organizations, the IEC develops safety standards and technical guidance to support countries' emergency preparedness and response infrastructure development.

"Every exercise, training, publication or initiative implemented is an opportunity to learn and rethink how to be better prepared to respond to a nuclear or radiological emergency, regardless of its cause, in the years to come," Buglova highlighted. IEC

Related Story

Preparing to Assist in a Nuclear or Radiological Emergency Under all Circumstances https://www.iaea.org/newscenter/news/preparing-to-assist-in-a-nuclear-or-radiological-emergency-under-all-circumstances

Related Resources

- Incident and Emergency Centre https://www.iaea.org/about/organizational-structure/department-of-nuclear-safety-and-security/incident-and-emergency-centre
- Incident and Emergency System https://www.iaea.org/topics/incident-and-emergency-system
- Ensuring Emergency Preparedness https://www.iaea.org/newscenter/multimedia/videos/ensuring-emergency-preparedness
- Emergency Response During COVID-19: IAEA's Incident and Emergency Centre https://www.iaea.org/newscenter/multimedia/videos/emergency-response-during-covid-19-iaeas-incident-and-emergency-centre

Follow us on Twitter to stay tuned
@IAEAIEC

We've started: @RafaelMGrossi addresses #virtualCAM2020 authorities. #IEC15years

2:59 PM · Jun 15, 2020 · Twitter Web App

New IAEA Operations Manual for Stronger Global Emergency Preparedness and Response

Laura Gil, IAEA Department of Nuclear Safety and Security

The 2020 Operations Manual for Incident and Emergency Communication provides essential guidance on accident notification and requesting assistance.

In case of a nuclear or radiological emergency, what do national authorities need to do to respond and how quickly? How do they communicate with other countries' emergency responders and the IAEA when every second counts? A new and updated Operations Manual provides the answers to these and other questions that arise in emergency response.

The Operations Manual for Incident and Emergency Communication describes in detail the steps that authorities and international organizations need to take to notify other countries and the IAEA of an event and how to request help during a nuclear or radiological emergency. Information in the manual applies to all countries and relevant international organizations and is of particular importance to those that have signed the Convention on Early Notification of a Nuclear Accident ('Early Notification Convention') and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency ('Assistance Convention'), which represent approximately three quarters of the IAEA's 171 Member States.

"Several developments have led to modifying existing arrangements since the last edition of the Operations Manual was issued in 2012," said Kilian Smith, Response and Assistance Network Officer at the IAEA's Incident and Emergency Centre. "This includes changes due to the lessons identified in exchanging information during incidents, emergencies and exercises, and updates to the Unified System for Information Exchange in Incidents and Emergencies (USIE)."

Notification and assistance

The Early Notification Convention covers different types of emergencies. It foresees obligatory notification of the IAEA and the affected States, as well as voluntary reporting, depending on the characteristics of the emergency.

Countries used standardized reporting forms to prevent ambiguity, and these forms have now been fully revised. The new and updated Manual and its Attachments outline the information national authorities need to convey to other countries and international organizations via the new forms, which cover the emergency's time, location, nature and other data needed to assess the consequences of the radioactive release. (One of these attachments, which contains contact details, is not available to the public online.)

"The Operations Manual gives countries and international organizations an outlined process: How quickly should they be contacting us? How long should they wait for our response? What can they do next?" Kilian said, adding that, States are encouraged to contact the IAEA for emergencies that do not have an impact on another country—although they are not obliged to do so.

At the same time, by signing the Assistance Convention, countries and international organizations confirm they will cooperate in facilitating prompt assistance to minimize consequences and to protect life, property and the environment from the effects of radioactive releases in the event of nuclear accidents or radiological emergencies.

States and international organizations that signed the Assistance Convention need to inform the Agency about the experts, equipment, and materials they may be able to provide to a country that requests assistance.

"Member States need to know how they can request or offer assistance. In an emergency, they need to know how they reach us, by phone, email or fax? The Operations Manual goes into that detail," Kilian said.

The Manual and its Attachments specify communication channels and timelines to follow. For instance, the Attachments include information on all the official State and relevant international organizations emergency contact points—staff who have been trained on emergency preparedness and response and who have been officially designated by national authorities and relevant international organizations to be contacted in case of a nuclear or radiological emergency. This information included in the Operations Manual, Kilian added, restricted to Member States and relevant international organizations, is not available to the general public to ensure that these channels remain exclusively for use in an emergency response.

Scope of the Manuals

The Operations Manual for Incident and Emergency Communication (EPR-IEComm) sets out to improve the global exchange of information in nuclear or radiological emergencies. It provides information that countries and relevant international organizations can use to develop effective, operational arrangements to interact with each other and with the IAEA.

As an attachment to the EPR-IEComm, the International Radiation Monitoring Information System (IRMIS) User Manual provides an overview of IRMIS and includes step-by-step guidance on how to use it. Another attachment, the International Radiological Information Exchange (IRIX) Format, provides a reference description of the IRIX format, which is an information structure and machine-readable format in Extensible Markup Language (XML) developed to carry the different types of information and data that are of relevance when responding to nuclear or radiological emergencies. IEC

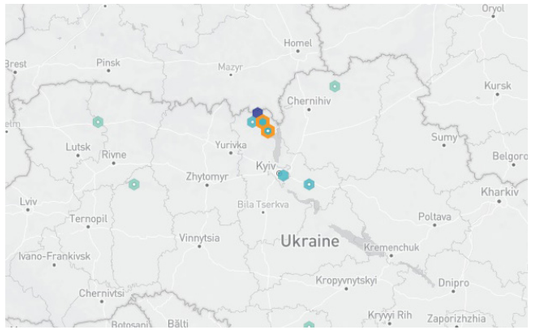
All these publications are available online and in hard copy upon request.

Related Resources

- Emergency Preparedness and Response Resources https://www.iaea.org/resources/databases/emergency-preparedness-and-response-resources
- Operations Manual for Incident and Emergency Communication https://www.iaea.org/publications/12359/operations-manual-for-incident-and-emergency-communication
- Emergency preparedness and response https://www.iaea.org/topics/emergency-preparedness-and-response-epr
- Incident and Emergency Centre (IEC) https://www.iaea.org/about/organizational-structure/department-of-nuclear-safety-and-security/incident-and-emergency-centre
- Convention on Early Notification of a Nuclear Accident https://www.iaea.org/topics/nuclear-safety-conventions/convention-early-notification-nuclear-accident
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency https://www.iaea.org/topics/nuclear-safety-conventions/convention-assistance-case-nuclear-accident-or-radiological-emergency

PRESS RELEASE

IAEA Sees No Radiation-Related Risk from Fires in Chornobyl Exclusion Zone



24 April 2020 — The recent fires in the Exclusion Zone near the Chornobyl Nuclear Power Plant (NPP) in Ukraine have not led to any hazardous increase of radioactive particles in the air, the International Atomic Energy Agency (IAEA) said today.

Basing its assessment on data provided by Ukraine, the IAEA said the increase in levels of radiation measured in the country was very small and posed no risk to human health.

"In addition, these radiation levels fall significantly with increasing distance from the site of the fires," said Elena Buglova, Head of the IAEA's Incident and Emergency Centre (IEC), which has been in close contact with Ukrainian authorities since the fires began in early April.

The State Nuclear Regulatory Inspectorate of Ukraine (SNRIU) has regularly provided information on this month's fires through the IAEA's Unified System for Information Exchange in Incidents and Emergencies (USIE), the 24/7 secure website for Member States to exchange information. For its part, the IAEA's IEC communicated via USIE with contact points in other Member States and international organizations and answered their questions.

On 8 April, SNRIU reported via USIE that nuclear and radioactive waste management facilities in the Exclusion Zone were safe and there was no need to evacuate plant workers or take other protective measures for staff there.

The Ukrainian authorities have a network of radiation monitoring stations country-wide and around the Chornobyl NPP, whose last operating reactor was shut down two decades ago. The SNRIU on April 14, 17, 20 and 22 provided updated information on USIE on measurements of radiation levels in the air.

The burning of meadows, pastures and stubble has resulted in some minor increases in radiation due to the release of radionuclides transferred from soil contaminated in the 1986 accident. But the concentration of radioactive materials in the air remained below Ukraine's radiation safety norms and posed no public health concern, the SNRIU said.

Ukraine has informed the IAEA that environment monitoring laboratories at the country's operating NPPs, the Ukrainian Hydrometeorological Centre, the Ukrainian Hydrometeorological Institute, the Chornobyl NPP and the SSE "Ecocentre" in the Exclusion Zone continue to monitor the level of radiation in the air in close communication and coordination with SNRIU.

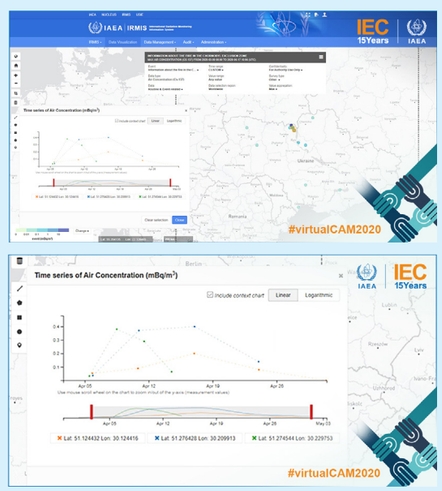
The accident at the Chornobyl NPP in 1986 was the most severe in the history of the nuclear power industry, causing a huge release of radionuclides over large areas of Belarus, Ukraine and the Russian Federation. Since 1986, radiation levels in the environment have fallen significantly, due to natural processes and counter measures. Most of the land contaminated with radionuclides has been made safe and returned to economic activity.

The IAEA provided extensive assistance to the regions affected by the disaster, including in the remediation of affected cities and farmland, monitoring of human exposure to radiation, and dissemination of information. The IAEA has continued to help with decommissioning of the reactors and radioactive waste management at the site. IAEA

Related Resources

- Chornobyl Nuclear Accident https://www.iaea.org/topics/chernobyl-nuclear-accident
- Incident and Emergency Centre https://www.iaea.org/about/organizational-structure/department-of-nuclear-safety-and-security/incident-and-emergency-centre

Want to keep updated on emergency preparedness and response in #nuclear? Follow us @IAEAIEC



Despite Lockdown, IAEA Continues Nuclear Verification and Supports Countries Fighting COVID-19 in Largest Ever Operation, Director General Tells Agency's Board

Elodie Broussard, IAEA Office of Public Information and Communication

Director General Rafael Mariano Grossi delivering his opening statement to the IAEA Board of Governors on 15 June 2020. (Photo: D. Calma/IAEA)

The IAEA has carried out its largest ever operation by delivering 319 consignments of equipment for COVID-19 detection and diagnosis, personal protective equipment and other supplies to 88 countries, while continuing its normal operations during the coronavirus pandemic, Director General Rafael Mariano Grossi said today. Shipments of material have been delayed to some other countries due to transport restrictions.

Addressing the first virtual meeting of the IAEA's Board of Governors, Mr Grossi said the Agency had adjusted well to the lockdown introduced in March, when almost all staff began working from home, and it had continued to implement safeguards throughout the world to prevent misuse of nuclear material and activities for non-peaceful purposes.

"When 121 countries turned to the Agency for assistance with the virus, we delivered," Mr Grossi said in a prepared statement. "We remain very conscious of the difficulties many Member States face and fighting the coronavirus will remain our top priority until the pandemic is finally defeated."

Despite the lockdown, the IAEA continued to carry out all of its most time-critical in-field nuclear verification work, while rescheduling some less urgent activities such as equipment installation and maintenance. "Delivery of most safeguards activities at headquarters and at regional offices continued," Mr Grossi stated. "We maintained our verification and monitoring activities, including by chartering aircraft for inspectors for the first time in the history of the Agency."

IAEA staff conducted many pandemic-related activities, including webinars to support thousands of human health specialists in 125 countries, webinars for veterinary experts through the VETLAB network, the evaluation of the efficacy of radiation for sterilising used respiratory masks of hospital staff and assistance to ensure the safety of relief food distributed to those made vulnerable during the lockdown in Uganda.

The Agency launched the COVID-19 Operational Experience Network, which enabled nuclear power plant operators and related organizations to share information on the impact of the pandemic. "Reports from operators and regulators indicate that safety and security are being maintained at nuclear power plants around the world," Mr Grossi highlighted. "No country has reported the enforced shutdown of a nuclear power reactor due to the effects of COVID-19 on the workforce or supply chains."

The IAEA's Incident and Emergency Centre remained fully operational during the lockdown period.

Mr Grossi announced the launch of the Zoonotic Disease Integrated Action (ZODIAC) project – a global initiative using nuclear and nuclear-derived techniques to help countries to control diseases that cross from animals to humans, and to respond quickly to any outbreaks.

He noted that the coronavirus pandemic had exposed problems such as insufficient capabilities in many countries to detect viruses and other threats to human health, inadequate equipment in laboratories in many developing countries and poor communication between health institutions throughout the world.

The ZODIAC project will establish a global network of national diagnostic laboratories that can conduct coordinated monitoring, surveillance, early detection and control of emerging and re-emerging zoonotic diseases, using nuclear or nuclear-derived techniques. Member States will have access to equipment, technology packages, expertise, guidance and training. "With national laboratories connected to a regional network, and regional networks linked through a global platform, decision-makers will receive up-to-date, user-friendly information that will enable them to act quickly," Mr Grossi stated. Read more about this initiative in this press release.

For the first time, the session of the IAEA Board of Governors took place virtually. On this photo Morakot Sriswasdi, Ambassador of Thailand is addressing the Board. (Photo: D. Calma/IAEA)

Nuclear verification

The Board of Governors heard that the number of States with safeguards agreements in force has remained at 184, with 136 countries having brought additional protocols into force.

Concerning safeguards implementation in Iran, Mr Grossi said:

"I note with serious concern that, for over four months, Iran has denied us access to two locations and that, for almost a year, it has not engaged in substantive discussions to clarify our questions related to possible undeclared nuclear material and nuclear-related activities. This is adversely affecting the Agency's ability to resolve the questions and to provide credible assurance of the absence of undeclared nuclear material and activities at these locations in Iran. I call on Iran to cooperate immediately and fully with the Agency, including by providing prompt access to the locations specified by us."

The IAEA continues to verify the non-diversion of nuclear material declared by Iran under its Safeguards Agreement, and evaluations regarding the absence of undeclared nuclear material and activities for Iran have also continued.

The Agency continues to monitor the nuclear programme of North Korea, also known as the Democratic People's Republic of Korea (DPRK), using open source information and satellite imagery. No significant recent changes have been observed, Mr Grossi noted. The Agency remains ready to resume verification of the DPRK's nuclear programme if a political agreement is reached among countries concerned.

Nuclear applications and technical cooperation

Mr Grossi noted an important milestone in the renovation of the IAEA nuclear applications laboratories in Seibersdorf, Austria, with the opening of the Yukiya Amano Laboratories building on 5 June. Named after the last IAEA Director General, who died in 2019, the new facilities will strengthen IAEA services in many areas, including in fighting diseases such as COVID-19. Planning continues for the final phase of the project to house the last three unrenovated laboratories in a new building.

In 2019, the IAEA supported 147 countries and territories through its technical cooperation programme, 35 of which were least developed countries. The main focus of work was on health and nutrition, nuclear safety and security and food and agriculture.

Nuclear energy

More than 440 nuclear power reactors are in operation in 30 countries, supplying over 10% of the world's electricity and around a third of all low-carbon power. Mr Grossi noted that 54 reactors are under construction in 19 countries, four of which are building their first reactor.

The IAEA's 2020 Scientific Forum, entitled Nuclear Power and the Clean Energy Transition, is scheduled to take place in September. It will focus on how nuclear power can provide science-based solutions to the climate emergency. "Nuclear power plays a key role in the global clean energy transformation," Mr Grossi said. "It will be very difficult, if not impossible, to meet global climate goals without significant use of nuclear energy. "

Following the launch of the IAEA Marie Sklodowska Curie Fellowship Programme in March to encourage women to study nuclear subjects and pursue careers in the nuclear field, Mr Grossi said the Agency had received many expressions of support, and concrete pledges from Canada, Norway and the United States. "I hope that many more Member States will follow suit to ensure we can award the first 100 fellows in the 2020-21 academic year." IAEA

Emergency Response During COVID-19: IAEA's Incident and Emergency Centre

Video: Katy Laffan, Sinead Harvey, Martin Klingenboeck

Click on this link to watch video https://www.iaea.org/newscenter/multimedia/videos/emergency-response-during-covid-19-iaeas-incident-and-emergency-centre

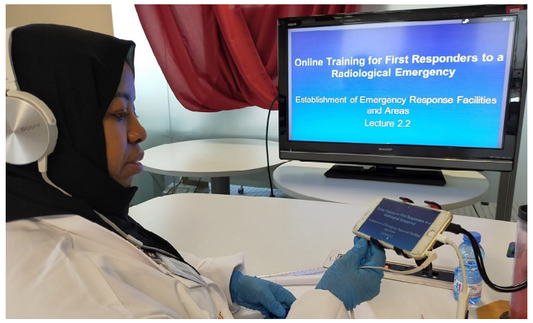
During the COVID-19 pandemic, the IAEA's Incident and Emergency Centre remains fully operational and ready to respond to nuclear and radiological emergencies. As the global focal point for radiation emergencies, the Centre's around-the-clock alert system is always staffed and the training of IAEA responders and conduct of exercises is being done remotely. If a radiation emergency should occur, over 200 trained IAEA staff are available to provide technical and scientific assessments, assist countries and coordinate international emergency response efforts.

Related Resources

- COVID-19 https://www.iaea.org/topics/covid-19
- COVID-19: latest IAEA updates https://www.iaea.org/covid-19
- Photo Gallery: IAEA and COVID-19 https://www.flickr.com/photos/iaea_imagebank/collections/72157713968972987/

IAEA Conducts First Arabic-Language Training Course for First Responders in Radiological Emergencies

Ashley Bantelman, IAEA Department of Technical Cooperation



Approximately 50 participants took part in a three-day virtual course on emergency preparedness in Qatar. (Photo: Qatari Ministry of Municipality and Environment)

The IAEA held its first-ever emergency preparedness and response (EPR) training course in Arabic last month for personnel in Qatar tasked to be responders in case of a nuclear or radiological emergency. The course was designed to help strengthen and implement Qatar's EPR arrangements.

> ***"We felt comfortable, participated more and asked more questions. Training in Arabic enables us to engage a wider set of stakeholders."***
>
> **Mohammed Al Suwaidi**
> General Directorate of Civil Defence, Ministry of Interior

Organized in collaboration with the Qatari Ministry of Municipality and Environment and its Department of Radiation and Chemicals Protection, the virtual course took place from 9 to 11 June with some 50 participants. It focused on the responsibilities of first responders, activities associated with the incident and effective communication with the public.

"Having this course in Arabic has made it more inclusive and of greater practical benefit for the participants," said Mohammed Al Suwaidi of the Ministry of Interior's General Directorate of Civil Defence. "We felt comfortable, participated more and asked more questions. Training in Arabic enables us to engage a wider set of stakeholders."

"This course is a first in three ways – it is the first course of this type in Arabic, the first based on new material we have developed for the updated Manual for First Responders to a Radiological Emergency which will be published in 2020, and the first offered virtually, to ensure that first responders in Qatar were still trained, even in times of COVID-19," said Muzna Assi, an IAEA Emergency Preparedness Officer.

The training course covered a number of aspects across three modules, including the structure of incident command systems, actions and activities associated with incident commanders from hazards assessments and management of the scene to personnel protection and site decontamination, and best practices for the protection of both first responders and the public.

"From the point of view of customs, the assessment of hazards and personal protection guidelines are particularly relevant to our work, where we may detect radioactivity,"

While Qatar has no nuclear installations, the proximity of nearby nuclear power plants has highlighted the importance of strengthening Qatari emergency response capabilities and management infrastructures. (Photo: Qatari Ministry of Municipality and Environment)

said Khalid Al-Tamimi of the General Customs Authority of Qatar. "This training has allowed us to improve our capacity to respond to nuclear and radiological emergencies."

Qatar has no nuclear installations within its own territory. However, several land-based nuclear power reactors are in operation in the region, and one is in construction as close as 50 kilometres from its borders, necessitating a strengthened nuclear and radiological emergency response capability and management infrastructure.

"We consider this training course to be useful in improving identified arrangements in this area at the national level," said Bader Al-Saadi, a nuclear engineer at the Qatari Ministry of Municipality and Environment, which is the official regulator for nuclear and radiation activities. "It is also important to us to gain an understanding of what type of assistance can be requested from the IAEA in a radiological emergency, and how to request it."

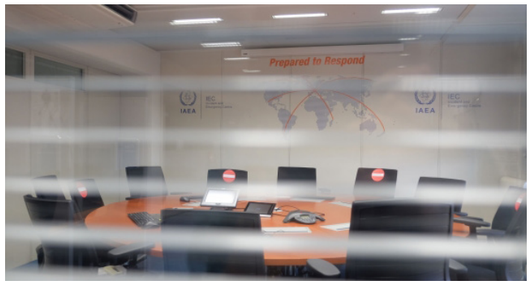
In 2010, an IAEA Emergency Preparedness Review (EPREV) follow-up mission assessing national capabilities in the country provided a set of recommendations to Qatar. These outlined the need for an integrated, well-equipped and multi-layered nuclear and radiological emergency preparedness and response programme to cope with new nuclear hazards and their associated radiological risks. IAEA

Related Story

A Female Perspective: Emergency Responders at the IAEA https://www.iaea.org/newscenter/news/a-female-perspective-emergency-responders-at-the-iaea

First IAEA Technical Meeting Held Virtually to Review Safety Standards on Emergency Preparedness and Response

Laura Gil, IAEA Department of Nuclear Safety and Security



(Photo: K. Vargas/IAEA)

Over 100 emergency preparedness and response professionals from more than 50 countries met for the first virtual technical meeting to review the draft, discuss changes and identify areas for further improvement of the IAEA Safety Standards Series No. GS-G-2.1 'Arrangements for Preparedness for a Nuclear or Radiological Emergency'. This Safety Standard is the essential guidance IAEA Member States rely upon to establish and maintain adequate arrangements to respond to any nuclear or radiological emergency, be it safety or security related. The meeting was held from 20 to 24 July.

"A broad community engagement is essential in achieving the harmonization of national emergency preparedness and response arrangements," said Juan Carlos Lentijo, IAEA Deputy Director General and Head of the Department of Nuclear Safety and Security, in his opening remarks. Noting that this was the first technical meeting to be held virtually, Lentijo added: "The current conditions will not stop us from implementing our duty to continue strengthening national, regional and international emergency preparedness and response arrangements. On the contrary, these circumstances help reveal the gaps in existing […] arrangements and provide an opportunity to address specific issues — to improve global preparedness for an effective response to any nuclear or radiological emergency."

The IAEA Safety Standards Series publication No. GS-G-2.1 was published in 2007 to provide guidance and recommendations to countries in applying the requirements contained in the IAEA Safety Standards Series publication No. GS-R-2 'Preparedness and Response for a Nuclear or Radiological Emergency', issued in 2002 and later superseded by the IAEA Safety Standards Series publication No. GSR Part 7.

What is new?

The revised draft Safety Guide, GS-G-2.1, provides guidance and recommendations on a selected number of new general functional and infrastructural requirements described in GSR Part 7 and strengthens the guidance on those requirements that are already addressed in the current Safety Guide. The revised Safety Guide further elaborates on topics such as the emergency management system, the all-hazard approach, hazard assessment, the unified command and control system, emergency planning zones and distances, international assistance, plans and procedures, analysing emergencies and emergency response.

"Review of this Safety Guide is extremely important regarding the effective implementation of GSR Part 7 by Member States," said Marcus Grzechnik, Director of the Monitoring and Emergency Response Section at the Australian nuclear regulator, ARPANSA, and Chair of the technical meeting. "While guidance is provided for the implementation of several GSR Part 7 requirements, the advice on the process of a hazard assessment is particularly anticipated for planning and preparedness for a nuclear or radiological emergency."

> ***"While guidance is provided for the implementation of several GSR Part 7 requirements, the advice on the process of a hazard assessment is particularly anticipated for planning and preparedness for a nuclear or radiological emergency."***
>
> **Marcus Grzechnik**
> Director of the Monitoring and Emergency Response Section, ARPANSA

These improvements were introduced considering recent developments and experience from responding to events such as the March 2011 accident at Fukushima Daiichi nuclear power plant and emergencies involving stolen sources.

"Since the 2009 publication of IAEA Safety Standards Series No. GS-G-2.1, we have experienced events such as the 2011 Fukushima Daiichi accident, and we have conducted national exercises that have helped us learn about new requirements we need to take on board in the next version of the Safety Standards," said Elena Buglova, Head of the IAEA's Incident and Emergency Centre.

The feedback received prior to and during the meeting showed that participants found changes in the current draft useful, comprehensive and practical. Some areas identified in the document required further improvements and clarification.

Adapting to the pandemic

While holding a virtual meeting involves new challenges, the IAEA decided to host it in order to ensure that the review process would continue. Immediate feedback mechanisms such as polls were introduced to make sure

that participants could participate actively. In contrast to in-person technical meetings, these mechanisms opened the door to even more comments and allowed more experts to participate and share their experience throughout the meeting. The relevant pandemic challenges were also addressed in the discussions.

“Pandemic-related impacts on EPR matters were identified for possible inclusion in the Guide,” Grzechnik said. “These include the effects of reduced staff, remote working affecting the ability to respond, social distancing, and the possibility that off-site facilities, such as hospitals, may have a reduced capacity to respond to a nuclear or radiological emergency.”

The revision of the document in light of the global pandemic was key, participants concluded.

“New evidence from emergency events including the COVID-19 pandemic shows us that we need to review and modify this document,” said Syed Asraf Fahlawi Wafa Ghazi, emergency preparedness and response officer from Malaysia. “We are in the process of reviewing our standard operating procedures to integrate with the medical sector, which covers all threats and hazards.”

In addition to experts from Member States, representatives from the European Nuclear Installations Safety Standards Initiative (ENISS) and the World Nuclear Transport Institute (WNTI) joined virtually. “This technical meeting is important because we consider this guidance is essential for monitoring emergency preparedness and response for nuclear transport,” said Hirotaka Nojima, Specialist Advisor at WNTI.

> ***“This technical meeting is important because we consider this guidance is essential for monitoring emergency preparedness and response for nuclear transport,”***
>
> **Hirotaka Nojima**
> Specialist Advisor, World Nuclear Transport Insitute

After addressing the feedback collected during the technical meeting, the draft Safety Guide will begin a comprehensive process of review and approval by all IAEA Safety Standards Committees, Nuclear Security Guidance Committee and the IAEA Commission on Safety Standards. IEC

Related Resources

- Arrangements for Preparedness for a Nuclear or Radiological Emergency https://www.iaea.org/publications/7503/arrangements-for-preparedness-for-a-nuclear-or-radiological-emergency
- Preparedness and Response for a Nuclear or Radiological Emergency https://www.iaea.org/publications/10905/preparedness-and-response-for-a-nuclear-or-radiological-emergency

Demonstrating Diversity: IAEA Supports Students, Young Professionals at the International Youth Nuclear Conference 2020

Omar Yusuf, IAEA Department of Technical Cooperation

Nearly 300 students, young professionals and government delegates from 43 countries attended the 11th edition of the International Youth Nuclear Congress, 12 of whom were sponsored through the TC programme. (Photo: IYNC)

In early March, IAEA experts joined almost 300 students, young professionals and government delegates from 43 countries in Sydney, Australia as they attended lectures, actively engaged in panel discussions and identified possible mentors at the International Youth Nuclear Congress (IYNC). Held biennially since 1997 to galvanize and promote the role of youth in the nuclear sector, this year’s IYNC was organized under the theme ‘Diversity in Nuclear.’ To help ensure that the discussions held throughout the Congress benefitted from a diversity of voices and viewpoints, the Agency supported the attendance of 12 young professionals from all regions through the technical cooperation (TC) programme, to share with and learn from their international peers and colleagues.

“Under the theme ‘Diversity in Nuclear,’ the objective of the conference was to promote and enable the diversity of people engaged in the many peaceful uses of nuclear science and technology,” said Gustavo Gimenez, the International Organizations Chair of the IYNC.

Najat Mokhtar, IAEA Deputy Director General and Head of the Department of Nuclear Sciences and Applications, joined the Congress remotely and, in a video statement delivered during the plenary session of IYNC 2020, encouraged the participants to work closely with one another to leverage the growing diversity of the nuclear world. “This diversity of the nuclear field is what makes working in this area so exiting. At the same time, in order to ensure that the full potential of nuclear technology and applications can unfold, we need a highly skilled and diverse nuclear workforce,” said Ms Mokhtar. “We cannot afford to miss out on much-needed talents to address the development challenges that many countries still face, and for which our support is needed.”

Held from 8 to 13 March, the Congress invited participants to explore and discuss questions pertaining to the role of young professionals in the nuclear industry and the place of nuclear power in national energy mixes in panel discussions chaired and attended by IAEA experts.

In a keynote presentation at a Congress side-event, IAEA Spent Fuel Management Specialist Laura McManniman underscored the growing importance of both sustainability in the nuclear field and youth engagement and examined how the two intersect. “Attracting young professionals into the nuclear industry is important to ensure the continued availability of knowledge, skills and experience,”s aid McManniman.

The keynote presentation, one of three thematic presentations organized during the Congress, drew a direct line between the sustainability of nuclear power and the sustainability of its workforce, and demonstrated how the two are symbiotically linked. “Engaging students and young professionals is important at all stages of a nuclear power programme’s life, as it ensures that the process of embarking, expanding or phasing out nuclear power can always rely on the availability of qualified professionals,” said McManniman.

> ***“Demonstrating new technologies has helped to draw more attention to the nuclear industry: Not only in how the field operates but also how workers stay prepared for any type of event that might occur”***
>
> **Andrew Bramnik**
> Emergency Response Training Officer, IAEA Incident and Emergency Centre

In the field of emergency preparedness and response, experts often turn to emerging technologies in order to more effectively fulfil their responsibility to keep the public and environment safe. Andrew Bramnik, an Emergency Response Training Officer in the IAEA’s Incident & Emergency Centre, underscored this point in a presentation he delivered on the use of virtual reality technology for training radiation emergency workers.

“Demonstrating new technologies has helped to draw more attention to the nuclear industry: Not only in how the field operates but also how workers stay prepared for any type of event that might occur,” said Bramnik. “As students and young professionals enter the industry, they’re excited to find tools like virtual reality being employed to ensure that workers and the public remain safe.”

Supporting Soon-to-Be Experts

The long-term sustainability of any endeavour in the nuclear field will rely on the availability of a cadre of well-trained, highly motivated young professionals. Sustained engagement with the youth is a core aspiration of the TC programme, and the organizing principle of IYNC. In keeping with this value, 12 students and young nuclear

IAEA experts spoke on panels, delivered keynote lectures and shared encouraging messages remotely to the Congress. (Photo: IYNC)

professionals—half male, half female—were identified, and their attendance, accommodation and travel to the Congress were sponsored through the TC programme.

This support was delivered through two ongoing TC projects—one implemented in Africa[1], and the other in the Asia and Pacific region[2]—and the aspiring nuclear professionals represented 10 countries: Bangladesh, Ghana, Indonesia, Kenya, Lesotho, Nigeria, Philippines, the United Republic of Tanzania, Zambia and Zimbabwe were identified and sponsored.

“We were able to meet with colleagues and peers during the conference through a very proactive and efficient method of networking,” said Llorina Ranada, a young professional working at the Philippine Nuclear Research Institute (PNRI), whose attendance was sponsored through the TC programme With the benefit provided by technical tours of the Australian Nuclear Science and Technology Organisation (ANSTO) headquarters, hands-on workshops and networking events at IYNC, Ms Ranada and the other sponsored attendees will return to their respective home institutions with new best practices, new contacts and a new outlook on the global nuclear industry.

From the support extended to the annual Intercontinental Nuclear Institute and the International Youth Nuclear Congress to the development and dissemination of pedagogic tools for secondary school teachers in Latin America and in Asia and the Pacific, the IAEA’s commitment to engaging young minds is visible across the Agency’s portfolio of programmes and activities. IAEA

[1] – RAF0058, ‘Enhancing the Management and Ownership of the Programme (AFRA)’

[2] – RAS0080, ‘Promoting Self-Reliance and Sustainability of National Nuclear Institutions’

Related Resources

- Investing in Youth: IAEA, International Youth Nuclear Congress Sign Agreement https://www.iaea.org/newscenter/news/investing-in-youth-iaea-international-youth-nuclear-congress-sign-agreement
- Nuclear knowledge management https://www.iaea.org/topics/nuclear-knowledge-management
- Technical cooperation programme https://www.iaea.org/services/technical-cooperation-programme

PRESS RELEASE

IAEA Informed about Natanz Incident, Safeguards Activities to Continue

03 July 2020 — The IAEA has been informed by Iran about a fire in a building at the site of the Natanz uranium enrichment facility early on Thursday. Iran also informed the IAEA late on Thursday that the fire was quickly extinguished and that there had been no nuclear material or other radioactive material in the building. Iran said the cause was not yet known, adding there were no injuries or radioactive contamination.

The Natanz site is under IAEA safeguards, including both safeguards verification and JCPOA verification and monitoring. The Agency can confirm that there were no IAEA safeguards inspectors present at the time, and that the location where the incident occurred does not contain nuclear materials.

The Agency has been in contact with relevant Iranian authorities to confirm there will be no impact on its safeguards verification activities, which are expected to continue as before. IAEA inspectors are present on a regular basis at Natanz. IAEA

Related Resources

Safeguards and verification https://www.iaea.org/topics/safeguards-and-verification

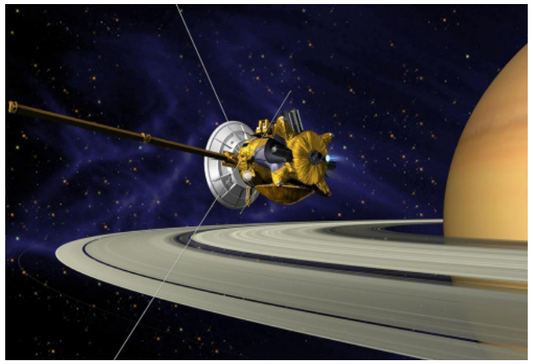
Department of Safeguards https://www.iaea.org/about/organizational-structure/department-of-safeguards

Do you have interesting stories to share about your organization or State's #emergency preparedness and response practices in #nuclear?

Tag us on Twitter @IAEAIEC

Ensuring Safety on Earth from Nuclear Sources in Space

Sinead Harvey, IAEA Office of Public Information and Communication



Nuclear power sources have been used recently on probes, landers and rovers on missions that have left Earth orbit, such as the Cassini mission seen in an artist's rendition here which was launched to explore Saturn and its moons. Global emergency preparedness and response arrangements are in place for satellites carrying nuclear power sources. (Photo: NASA)

In early 1978, the world steeled itself as gravity pulled an uncontrolled satellite powered by a small reactor fueled with 45 kg of highly enriched uranium towards Earth. Since COSMOS 954's impact point could not be predicted accurately, emergency responders had to assume that an inhabited area could be contaminated, and they feverishly prepared equipment and response procedures. This was the world's first experience with the uncontrolled re-entry of a space object with radioactive materials.

The radioactive materials launched into Earth orbit, or traveling in spacecraft, can potentially harm people or the environment in case of an accident and for which strict emergency response planning and effective information sharing at the international level are required. This was the topic of an IAEA webinar held last week for emergency response experts.

In the majority of nuclear and radiological emergencies there will be enough information to know the location of a potential release of radioactivity, but with space activities the exact location of impact cannot always be predicted. "The IAEA has developed arrangements to share information about any pending nuclear-powered satellite re-entry. Using the data, countries can quickly respond to protect the public and the environment from the radioactivity that might spread as a result of an accident," said Frederic Stephani, Incident and Emergency Assessment Officer in the IAEA, during the webinar.

COSMOS 954 eventually crashed in the Northwest Territories in Canada on 24 January 1978, scattering radioactive debris over a 600 km footprint and spreading radioactivity over 100 000 km2. The clean-up operation, called "Operation Morning Light," jointly coordinated by Canada and the US, recovered 80 radioactive items.

The COSMOS 954 crash became a prototype for global emergency preparedness and response arrangements for satellites carrying nuclear power sources.

Exploring space with nuclear power

As space objects are propelled towards new scientific discoveries in space, often far away from the Sun, they require nuclear power sources. But accidents can occur during the launch, operation and end-of-service mission phases of space nuclear power source applications. These accidents could expose the nuclear power source to extreme physical conditions leading to a radioactive release into the Earth's atmosphere.

For space agencies such as the United States National Aeronautics and Space Administration (NASA), different safety requirements will apply depending on the unique features of each mission. "The US uses a well-established National Response Framework to respond to a broad range of incidents, and this includes a lot of key assets that are specific to radiological events, including monitoring and assessment capabilities," said Don Helton, Nuclear Flight Safety Assurance Manager at NASA.

International cooperation in emergencies

Globally, clear obligations have been set out. Under the Convention on Early Notification of a Nuclear Accident, in case of an accident with a satellite or other space object with a nuclear power source or with a radioactive source on board, the countries that launched the space object must notify potentially affected States and the IAEA. The IAEA has established operational arrangements to support countries to meet this obligation.

> ***"In the event of an accident, we would liaise with the launching state to gather information on the object and, if necessary, with other countries who can track space objects to determine re-entry timeframe and probable impact coordinates."***
>
> **Natercia Rodrigues**
> Programme Officer, UNOOSA

The IAEA's Unified System for Information Exchange in Incidents and Emergencies (USIE) — a secure 24/7 monitored website — provides a platform for countries to exchange urgent notifications and follow-up information during a nuclear or radiological emergency. The Joint Radiation Emergency Management Plan of the International Organizations (JPLAN) sets out a framework for the coordinated actions of international organizations during an emergency.

The United Nations Office for Outer Space Affairs (UNOOSA), as the lead UN entity for outer space affairs, has clear responsibilities under the JPLAN. "In the event of an accident, we would liaise with the launching state to gather information on the object and, if necessary, with other countries who can track space objects to determine re-entry timeframe and probable impact coordinates. We would then ensure that the most up-to-date trajectory and impact predictions are provided to the IAEA for further dissemination to aid emergency response efforts," said Natercia Rodrigues, Programme Officer in UNOOSA, during the webinar.

Current threats and future plans

UNOOSA also maintains the UN Register of Objects Launched into Outer Space. To date over 86 per cent of all satellites, probes, landers, crewed spacecraft and space station flight elements launched into Earth orbit or beyond have been registered with UNOOSA.

So, what is the likelihood of another COSMOS 954-type crash happening in the future?

Sam Harbison, Chair of the United Nations Working Group on nuclear power sources in outer space, established in the year after Cosmos 954, explained that countries are no longer using nuclear power sources in Earth orbits because of the rapid improvements in solar panel technology and in order to avoid unnecessary potential releases of radioactive material. "All the nuclear power source satellites presently in Earth orbit were launched during the 1960's to 1980's and it is estimated it will be more than a hundred years before the earliest of them will re-enter Earth's atmosphere."

More recent uses of nuclear power sources have been on probes, landers and rovers on missions that have left Earth orbit. Examples include the Cassini mission to explore Saturn and its moons, and robotic rovers such as the recently launched Mars 2020 Perseverance mission which will reach Mars early next year. There are aspirations to use nuclear power sources to support human colonies on the moon or Mars. "Solar panels are not sufficient for such prolonged missions, at great distances from the Sun," Harbison said. "They would have to be complemented by rocket propulsion, which is bulky, heavy and expensive. Nuclear power sources will be needed both for the return journey and to sustain human activities on the surface of the Moon or Mars." IAEA

Related Resources

Convention on Early Notification of a Nuclear Accident https://www.iaea.org/topics/nuclear-safety-conventions/convention-early-notification-nuclear-accident

Joint Radiation Emergency Management Plan of the International Organizations https://www.iaea.org/publications/11163/joint-radiation-emergency-management-plan-of-the-international-organizations

Exploring Space with Nuclear Energy https://www.iaea.org/newscenter/multimedia/videos/exploring-space-with-nuclear-energy

Cassini mission https://solarsystem.nasa.gov/missions/cassini/overview/

PRESS RELEASE

IAEA Aware of Information on Detections of Radioisotopes in Air, Seeking Information from IAEA Member States

Elevated levels of radioisotopes were detected by a CTBTO International Monitoring Station in June 2020. (Photo: CTBTO)

27 June 2020 — The International Atomic Energy Agency (IAEA) is aware of information from the Provisional Technical Secretariat of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) that its International Monitoring System (IMS) detected elevated levels of three radioisotopes Ru-103, Cs-134 and Cs-137 in the air at an IMS monitoring station in Sweden.

As per standard practice in such cases, the IAEA has contacted its counterparts requesting information on whether these radioisotopes have been detected in their countries, and if any event may have been associated with this atmospheric release. IAEA

UPDATE

IAEA Receives Member State Data on Radioisotopes Detected in the Air, Sees No Human Health Risk

29 June 2020 — The International Atomic Energy Agency (IAEA) said today that slightly elevated levels of different radioisotopes detected in northern Europe posed no risk to human health or the environment.

Seeking to help identify the possible origin of the radioisotopes, the IAEA on Saturday contacted counterparts in Europe and requested information on whether they were detected in their countries, and if any event there may have been associated with the atmospheric release.

By Monday afternoon, 29 Member States in the European region (Albania, Austria, Belgium Bosnia and Herzegovina, Bulgaria, Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Spain, Sweden, Turkey, Ukraine and United Kingdom) had voluntarily reported to the IAEA that there were no events on their territories that may have caused the observed air concentrations of Ru-103, Cs-134 and Cs-137. They also provided information about their own measurements and results. In addition, some countries which have not been approached by the IAEA—Algeria, Georgia, Tajikistan and the United Arab Emirates—also reported voluntarily to the IAEA information about their measurements and that there were no events on their territories.

"The levels reported to the IAEA are very low and pose no risk to human health and the environment," said IAEA Director General Rafael Mariano Grossi. "I expect more Member States to provide relevant information and data to us, and we will continue to inform the public."

Following its standard practice, the IAEA is sharing the data it receives with all 171 Member States via its Unified System for Information Exchange in Incidents and Emergencies, a secure website available on a 24/7 basis for designated contact points in Member States. The IAEA will continue its efforts to analyse collected information in order to identify the possible origin and location of the release. IAEA

UPDATE

More Countries Provide Radioisotope Information to IAEA, Reported Levels Very Low

30 June 2020 — The International Atomic Energy Agency (IAEA) has received responses from more than 40 countries following its request for information regarding slightly elevated levels of different radioisotopes detected in northern Europe. Most of them said they had not observed any increase in radioactivity levels.

Estonia, Finland and Sweden last week measured radioisotope concentrations on their territories of a few micro-becquerels (Bq) per cubic meter of air. Such very low radioactivity levels reported to the IAEA pose no risk to human health or the environment. The three countries said there had been no events on their territories that may have caused the observed air concentrations of Ru-103, Cs-134 and Cs-137.

Seeking to help identify their possible origin, the IAEA on Saturday contacted its counterparts in Europe and requested information on whether these radioisotopes were detected in their countries, and if any event there may have been associated with the atmospheric release.

By Tuesday afternoon, a total of 37 Member States in the European region, (Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Republic of Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Russian Federation, Republic of Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and United Kingdom) had voluntarily reported to the IAEA that there were no events on their territories that may have caused the release. They also provided information about their own measurements and results.

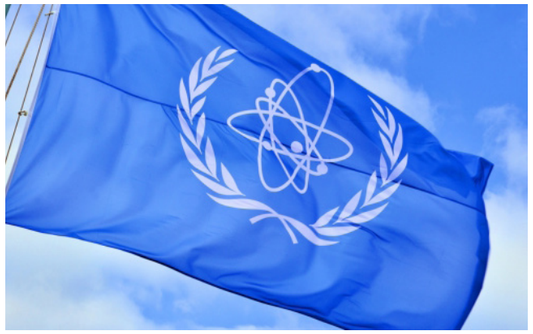
In addition, seven countries which have not been approached by the IAEA—Algeria, Georgia, Kuwait, Morocco, Tajikistan, the United Arab Emirates and the United States of America—also reported information about their measurements and said there had been no relevant events on their territories.

Apart from Estonia, Finland and Sweden, none of the other countries which have so far provided information and data to the IAEA said they had detected elevated radioisotope levels.

Following its standard practice, the IAEA is sharing the data it receives with all 171 Member States via its Unified System for Information Exchange in Incidents and Emergencies, a secure website available on a 24/7 basis for designated contact points in Member States. The IAEA will continue its efforts to analyse collected information in order to help identify the possible origin and location of the release. IAEA

UPDATE

Low Levels of Radioisotopes Detected in Europe Likely Linked to a Nuclear Reactor – IAEA



The IAEA reported on slightly elevated levels of radioisotopes detected in northern Europe. (Photo: IAEA)

02 July 2020 — The recent detection of slightly elevated levels of radioisotopes in northern Europe is likely related to a nuclear reactor that is either operating or undergoing maintenance, when very low radioactive releases can occur, the International Atomic Energy Agency (IAEA) said today. The geographical origin of the release has not yet been determined.

Basing its technical assessment on data reported by its Member States, the IAEA reiterated that the observed air concentrations of the particles were very low and posed no risk to human health and the environment.

Estonia, Finland and Sweden last week measured levels of Ruthenium and Caesium isotopes which were higher than usual. They also reported the detection of some other artificial radionuclides. The three countries said there had been no events on their territories that could explain the presence of the radionuclides, as did more than 40 other countries that voluntarily provided information to the IAEA.

Seeking to help identify their possible origin, the IAEA on Saturday contacted its counterparts in the European region and requested information on whether the particles were detected in their countries, and if any event there may have been associated with the atmospheric release.

By Thursday afternoon, 37 Member States in the European region (Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Republic of Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Russian Federation, Republic of Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and United Kingdom) had voluntarily reported to the IAEA that there were no events on their territories that explained the release. They also provided information about their own measurements and results.

In addition, 10 countries which were not asked for such information—Algeria, Canada, Georgia, Japan, Kuwait, Morocco, Qatar, Tajikistan, United Arab Emirates and United States of America—also voluntarily reported to the IAEA.

The IAEA has collaborated with Member States in collecting, sharing and analysing data.

Based on the IAEA's technical analysis of the mix of artificial radionuclides that were reported to it, the release was likely related to a nuclear reactor, either in operation or in maintenance. The IAEA ruled out that the release was related to the improper handling of a radioactive source. It was also unlikely to be linked to a nuclear fuel processing plant, a spent fuel pool or to the use of radiation in industry or medicine.

Based on the data and information reported to the IAEA, no specific event or location for the dispersal of radionuclides into the atmosphere has yet been determined. To do this, the IAEA depends on receiving such information from a country where the release occurred. IAEA

PRESS RELEASE

IAEA Mission Assists Lebanon with Technical Expertise and Equipment after Beirut Blast

Experts from the IAEA response assistance mission to Lebanon measure radiation levels at a scrapyard in Beirut on 14 September 2020. (Photo: K. Smith/IAEA)

14 September 2020 — An International Atomic Energy Agency (IAEA) team of experts is in Beirut this week to support emergency response efforts in the Lebanese capital following last month's explosion in its port area. Lebanese authorities have reported to the IAEA that they did not detect any elevated radiation levels after the blast on 4 August but requested the mission to confirm their measurements and to give advice on nuclear safety and security matters.

Earlier, the IAEA acted to help Lebanon in other ways, including in the areas of health, as many hospitals were damaged in the explosion.

"Following the devastating explosion at the Port of Beirut in Lebanon, the Agency took swift action to help respond to the country's immediate needs," said IAEA Director General Rafael Mariano Grossi. "An IAEA assistance mission, with the involvement of experts from Member States, will provide support with radiation surveying, sampling and analysis and advise on any potential radiation hazards."

During the week-long mission starting today, the IAEA team, comprised of four experts from Denmark and France as well as four IAEA staff members, will measure radiation levels at a number of locations in Beirut. The experts will also assess the impact of the explosion on the safety and security of radioactive material and sources in hospitals, scrapyards and the port. The IAEA will donate handheld radiation detection equipment to the authorities and training will also be carried out.

Additionally, samples of food, seawater, soil and building material collected by Lebanese authorities will be analysed in laboratories in France and Switzerland.

In response to a request for assistance from Lebanon, the IAEA arranged the assistance mission with involvement of Member States registered in the IAEA's Response and Assistance Network (RANET), a network of states which offer assistance to minimize the actual or potential radiological consequences of nuclear or radiological emergencies irrespective of the origin. Participating in RANET is one way for states to fulfil their obligations under the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, adopted in 1986 following the Chernobyl nuclear power plant accident.

"We have been in close contact with the Lebanese authorities since the time of the explosion. We activated RANET following their request for assistance and received offers from fourteen countries to support the response effort," said Elena Buglova, Head of the IAEA's Incident and Emergency Centre (IEC). IAEA

UPDATE

IAEA Mission Detects No Radiation Increase in Beirut After Recent Blast

02 October 2020 — An International Atomic Energy Agency (IAEA) team of experts has not detected elevated levels of radiation in areas surveyed during a mission to Beirut which was carried out in the aftermath of the massive blast two months ago. There were no artificial radionuclides in the measurements the team conducted during the visit in mid-September.

The team's findings confirmed those previously reported by Lebanese authorities which had requested the IAEA assistance mission to support their emergency response efforts following the explosion in the Beirut port on 4 August. Even though the mission took place more than a month after the explosion, it would still have detected any subsequent increase in radiation.

The team, comprised of four experts from Denmark and France as well as four IAEA staff members, also gave advice on nuclear safety and security matters during the mission conducted from 14 to 18 September.

In a report presented to the Lebanese Atomic Energy Commission (LAEC) this week, the IAEA said radiation surveys conducted during the mission did not find any unusual radiation levels, only natural background radiation.

"The IAEA assistance mission, with the involvement of experts from Member States, conducted radiation surveys and analysis at specific sites to confirm that there were no elevated levels of radiation following the explosion," said IAEA Director General Rafael Mariano Grossi. "The IAEA stands ready to provide further support to Lebanon as it strives to recover from the devastating explosion."

The IAEA team also assessed the impact of the blast on radioactive material and sources. They confirmed that radioactive sources at two hospitals were safe and secure.

The team recommended some actions to be taken in scrapyards, hospitals and the port to strengthen nuclear safety and security, including training for scrapyard workers, better signage to indicate the presence of radioactive material and increased security for the storage of such material. Supporting the authorities with equipment was an important part of the mission, and the IAEA team provided training on the use of handheld radiation detection equipment which was also donated to the country.

"As Lebanon faces this challenging period, after the Beirut explosion and in the presence of COVID-19, we welcome the support the IAEA assistance mission provided for the response efforts of LAEC," said Mr Bilal Nsouli, Director General at LAEC. "We look forward to continuing to cooperate with the IAEA as we strengthen nuclear safety and security in the country."

The assistance mission was carried out at the request of Lebanon with the involvement of Member States registered in the IAEA's Response and Assistance Network (RANET), a network of states which offers assistance to minimize the actual or potential radiological consequences of nuclear or radiological emergencies irrespective of the origin.

"We activated RANET based on the specific request of Lebanon to support response efforts in Beirut. After receiving offers of help from fourteen countries registered in RANET, the IAEA assembled and deployed an assistance mission to Beirut to monitor various locations throughout the city and to report official findings to Lebanon," said Elena Buglova, Head of the IAEA's Incident and Emergency Centre.

The IAEA has also supported Lebanon in other ways, including in the area of health, as many hospitals were damaged in the explosion. IAEA

Click on this link to watch video https://youtu.be/wONeqWCM9XE

PRESS RELEASE

IAEA-Designated Experts to Observe Collection of Marine Samples near Fukushima Daiichi Nuclear Power Station

30 October 2020 — The International Atomic Energy Agency (IAEA) has commissioned Japanese experts to independently observe and document the collection of seawater, marine sediment and fish samples from coastal waters in Fukushima Prefecture, Japan. The aim is to support the quality assurance of data collection and analysis by Japanese laboratories for radioactivity measurements.

The 4-20 November mission is the tenth organized by the IAEA, at the request of the Japanese Government, to verify that sea area monitoring around the Fukushima Daiichi Nuclear Power Station (NPS) remains comprehensive, credible and transparent. Unlike the previous nine such missions when the IAEA sent its own team including international experts, three independent Japanese experts will this time monitor the sampling on behalf of the Agency due to COVID-19 travel restrictions.

The IAEA has since 2014 organized missions to support the collection of marine samples for interlaboratory comparisons of radioactivity analyses. For this mission, the independent domestic experts in environmental radioactivity will observe the sample collection of seawater and marine sediment samples near the Fukushima Daiichi NPS, and fish caught by commercial fishing operations in Fukushima Prefecture.

The team will report directly to the IAEA on the integrity of sample collection, identification, tracking and pre-treatment. Analyses of the samples will be conducted at laboratories in Japan and at the IAEA, where the quality of the measurement results will be evaluated.

The mission is a follow-up to the 2013 report by the IAEA International Peer Review Mission on Mid- and Long-Term Roadmap towards the Decommissioning of TEPCO's Fukushima Daiichi NPS Units 1-4, which reviewed Japan's efforts to decommission the plant. In this report, the IAEA recommended that Japan follow an extensive data quality assurance programme to build stakeholder confidence in the accuracy and quality of the sea area monitoring data.

A 2017 analysis report of six inter-laboratory comparisons and sampling missions conducted from 2014 to 2016 concluded that Japanese laboratories analysing marine samples from near the Fukushima Daiichi NPS produce reliable data. IAEA

IEC Incident and Emergency Centre

IAEA

15 YEARS PREPARING, RESPONDING, and ASSISTING in safety and security related nuclear and radiological incidents and emergencies

2005 IEC is established

2007 IAEA Response Plan for Incidents and Emergencies (REPLIE) is published

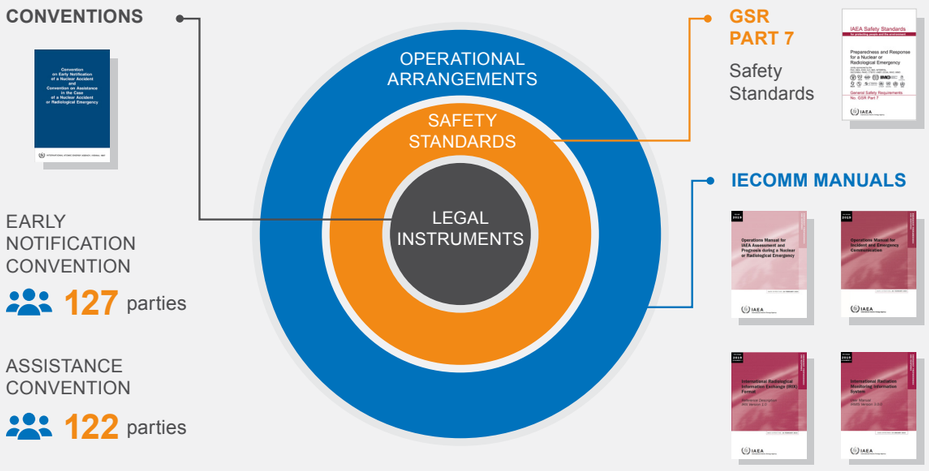
2011 Fukushima Daiichi NPP accident; USIE is launched

2015 IAEA General Safety Requirements No. GSR Part 7 is published

2016 International Radiation Monitoring Information System (IRMIS) is launched

2020 IEC adapts to COVID-19

INTERNATIONAL EPR FRAMEWORK



IEC'S ROLES AND RESPONSIBILITIES IN EMERGENCY RESPONSE

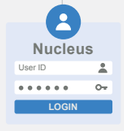
1. Notification and information exchange
2. Provision of public information
3. Assessment and prognosis
4. Provision of assistance on request
5. Coordination of inter-agency response

INES
(International Nuclear and Radiological Event Scale)

35 Member States

~30 missions since 2000

USIE
(Unified System for Information Exchange in Incidents and Emergencies)



1500 registered users

>300 contact points

EPREV
(Emergency Preparedness Review)

48 EPREV missions

43 Member States

1289 EPRIMS modules

INES
(International Nuclear and Radiological Event Scale)

87 national officers

79 countries

INCIDENT AND EMERGENCY SYSTEM

- EMERGENCY RESPONSE MANAGER
- LOGISTICS SUPPORT OFFICER
- RADIATION SAFETY SPECIALIST
- NUCLEAR INSTALLATION SPECIALIST
- EXTERNAL EVENT SPECIALIST
- NUCLEAR SECURITY SPECIALIST
- PUBLIC INFORMATION OFFICER

>42% female IES responders

>180 certified responders from all IAEA departments

50 participants per exercise on average

70 training classes per year on average

EVENTS

3065 recorded events

124 Offers of Good Offices

486 events with IEC-MS response

~30 Assistance Missions

CAPACITY BUILDING

iNET-EPR

~170 POC

~70 Member States

CBC-EPR

7 POC in 6 Member States

TRAININGS

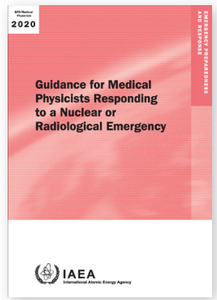
~60 events per year

EXERCISES

~15 ConvEx per year

~25 Member States exercises per year

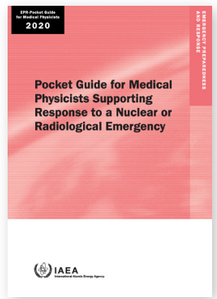
EPR - Medical Physicists



Guidance for Medical Physicists Responding to a Nuclear or Radiological Emergency

EPR-Medical Physicists (2020); ISSN 2518–685X; English Edition; 2020

https://www.iaea.org/publications/13483/guidance-for-medical-physicists-responding-to-a-nuclear-or-radiological-emergency



Pocket Guide for Medical Physicists

EPR-Pocket Guide for Medical Physicists 2020; ISSN 2518-685X English Edition; 2020

https://www.iaea.org/publications/13388/pocket-guide-for-medical-physicists-supporting-response-to-a-nuclear-or-radiological-emergency

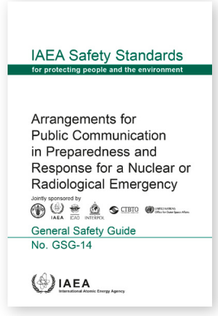
IAEA TECDOC SERIES No. 1930

Implementation and Effectiveness of Actions Taken at Nuclear Power Plants Following the Fukushima Daiichi Accident

IAEA-TECDOC-1930; ISSN 1011–4289; English Edition; 2020

https://www.iaea.org/publications/14743/implementation-and-effectiveness-of-actions-taken-at-nuclear-power-plants-following-the-fukushima-daiichi-accident

IAEA Safety Standards Series No. GSG-14



Arrangements for Public Communication in Preparedness and Response for a Nuclear or Radiological Emergency

IAEA Safety Standards Series No. GSG-14; ISSN 1020–525X; English Edition; 2020

https://www.iaea.org/publications/13517/arrangements-for-public-communication-in-preparedness-and-response-for-a-nuclear-or-radiological-emergency

IEC WEBINARS

The Incident and Emergency Centre offers a variety of webinars about emergency preparedness and response to nuclear or radiological incidents and emergencies, irrespective of the cause.

Several webinars are conducted in different languages and catered to different time zones.

Browse through and participate in our free webinars here: https://www.iaea.org/ns-webinars/incident-and-emergency-centre

Follow us on Twitter **@IAEAIEC** to keep updated.

EVENTS AND ACTIVITIES

Due to the current circumstances and the uncertainty surrounding the Coronavirus outbreak (COVID-19), several Agency events have been cancelled or postponed. A number of events will be held virtually. Event participants will be contacted by the respective organizers with further practical information. Please check this page the IAEA events page (https://www.iaea.org/events) regularly for any updates.

February 2021

- **International Conference on a Decade of Progress after Fukushima-Daiichi: Building on the Lessons Learned to Further Strengthen Nuclear Safety**

  22 – 26 February 2021
  Vienna Austria
  https://www.iaea.org/events/international-conference-on-a-decade-of-progress-after-fukushima-daiichi-building-on-the-lessons-learned-to-further-strengthen-nuclear-safety-2021

October 2021

- **International Conference on the Development of Preparedness for National and International Emergency Response (EPR2021)**

  11 – 15 October 2021
  Vienna Austria

- **EMERGENCY RESPONSE EXERCISE ConvEx-3 (2021)**

  26 – 27 October 2021
  Vienna Austria